

## Hotdogs – The World’s Greatest Cost Effective Wholesome Nutritious Food

You need to develop a program that handles the business transactions and tracks the activities of all your hotdog stands.

### HotDogStandsClass

Define a class named **HotDogStandsClass**.

This class has the following for private member instance variables:

- Hotdog stand Identification string  
Each stand should have a unique identification string.
- Stand Location  
A string that is the address of the stand which includes street, city, and country.  
Examples:  
12 Deepika Padukone Ci Bangalore Karnataka 67089 India  
123 Jennifer Dr UTD Food Court 2<sup>nd</sup> Floor Richardson Texas 66666 USA
- Cost per hotdog  
Cannot be negative, must be 0 or greater.  
Example: 4.99.
- Total Hot Dogs Sold Across All Stands  
Cannot be negative, must be 0 or greater.
- Hotdogs Inventory Amount  
The lowest value the inventory can be is 0.  
Negative inventory amounts do not make sense.
- Hotdogs Sold Count  
This contains how many hot dogs this stand has sold since the stand started handing transactions.

The HotDogStandsClass Class must include the following methods

- A constructor with parameters that sets all the instance values
- Accessor (Getter) and Setter methods that are required for all private member instance variables
- `hotDogsBuy(n)` method
  - The method will be invoked each time a transaction for the stand occurs that buys some hotdog(s).
  - Has a parameter (n) that indicates the requested number of hotdogs to be bought
  - If the inventory is 0, the method should display a message that there are no more hotdogs left to be sold.  
The method uses the amount of the hot dogs requested to:
  - Increase the hog dogs total number sold for all the stands by the `hotDogsBuy(n)` n parameter amount  
It must be accessible to all the HotDogStandsClass objects.
  - Increase the tracked hot dogs sold by the appropriate buy number for the stand
  - Decrease the hot dog inventory by the appropriate buy number for the stand
  - This method should be intelligent regarding the inventory.  
The lowest value the inventory can be is 0. Negative inventory amounts do not make sense.  
If the buy amount is more than the inventory, the class should state the number of hotdogs in inventory and state to retry a buy.  
If inventory amount is 0, the class should state that it is out of hotdogs and to try again later.  
Hopefully before a buy retry a stock inventory will be done.
- `stockInventory(n)` method that responds to a stock inventory transaction  
Has a parameter (n) that indicates the requested number of hotdogs to be added to the inventory.

## Files Required

There 3 text files required that must be submitted for the assignment:

- InfoHotDogStands.txt
- InfoHotDogStandsTransactions.txt
- InfoGlobalSold.txt

### InfoHotDogStands.txt

This file contains the hog stand information.

It is a comma separated value (csv) file.

Each line in the file has the following structure:

hotdog stand id, address, hotdog price, current inventory amount, stand amount sold total

Example:

HotDogStand1,17817 Coit Rd Richardson Tx 77777 USA,10.27,20,20

For this assignment, your file must supply at least 3 different stands.

### InfoHotDogStandsTransactions.txt

This file contains the transactions for the hotdog stands.

It is a comma separated value (csv) file.

There are 2 transaction types that can exist in this file:

- stock inventory
- buy

#### stock inventory

This transaction has the following format:

HotDogStandID, stock inventory, amount to add to inventory

Example:

HotDogStand1,stock inventory, 20

#### buy

This transaction has the following format:

HotDogStandID, buy, amount to buy

Example:

HotDogStand3, buy, 1

The InfoHotDogStandsTransactions.txt file should have at least 10 transactions.

The transactions should fully test all the execution paths of the program.

You will lose points if the InfoHotDogStandsTransactions.txt does not do comprehensive path testing of the program.

## InfoGlobalSold.txt

This file serves to hold a single value – the sold amount by all hotdog stands.  
It serves as a persistent store for the global sold amount.

## Dynamic Arrays

Dynamic arrays should be used to hold all the information from the following files:

- InfoHotDogStands.txt
- InfoHotDogStandsTransactions.txt

## main()

This main program does the following.

It reads in from the InfoHotDogStands.txt to configure the class objects.  
It reads in from the InfoGlobalSold.txt to configure the hot dog stand class objects.

The program should then display this information and pause the screen.  
To accomplish this display of the class state, you should develop an overloaded stream output operator that displays a well formatted string of object state (contents) that is well suited to being displayed using cout.

The program must then state it is Processing Transactions.

In a loop, the program must read the transactions in the InfoHotDogStandsTransactions.txt file.

The program must then display for each transaction:

- The current state of the stand along with the total sold count.
- The transaction
- The state of the stand along with the total sold count after the transaction
- Hold the screen after each transaction.
  - Use cin.ignore(); cin.get;

After all the transactions have been processed, the final states of each of the objects of the HotDogStandsClass and the total sold count must be displayed and the screen paused.

The following 2 files should be updated before with current information before the program ends.

- InfoHotDogStands.txt
- InfoGlobalSold.txt

Your program must use the class specification and class implementation design paradigms.  
Therefore, you will have .cpp, .h and txt multiple files to zip up for submittal to the eLearning system:

- main.cpp
- HotDogStandsClass.h
- HotDogStandsClass.cpp
- TransactionsClass.h

Remember you must also include the following text files into the zip file for uploading the text files.

- InfoHotDogStands.txt
- InfoHotDogStandsTransactions.txt
- InfoGlobalSold.txt

## Example Program Run

### The three files initial contents:

#### InfoHotDogStands.txt

```
HotDogStand1,17817 Coit Rd Richardson Texas 75934 USA, 10.27,0,0
HotDogStand2,800 West Campbell Rd Plano Texas 75039 USA,13.2,0,0
HotDogStand3,7421 Frankford Rd Dallas Texas 73409 USA,18.23,0,0
```

#### InfoHotDogStandsTransactions.txt

```
HotDogStand1, stock inventory, 20
HotDogStand2,stock inventory, 20
HotDogStand3,stock inventory, 20
HotDogStand1,buy, 10
HotDogStand2,buy, 03
HotDogStand3,buy, 1
HotDogStand1,buy, 30
HotDogStand2,buy, 17
HotDogStand2,buy, 01
```

#### InfoGlobalSold.txt

0

### The Program Run

Initial states of stands:

=====

Stand Id : HotDogStand1  
Address : 17817 Coit Rd Richardson Texas 75934 USA  
Price : 10.27  
Inventory : 0  
Store Sold : 0 at \$10.27 ea.

Stand Id : HotDogStand2  
Address : 800 West Campbell Rd Plano Texas 75039 USA  
Price : 13.20  
Inventory : 0  
Store Sold : 0 at \$13.20 ea.

Stand Id : HotDogStand3  
Address : 7421 Frankford Rd Dallas Texas 73409 USA  
Price : 18.23  
Inventory : 0  
Store Sold : 0 at \$18.23 ea.

Global Sold : 0

Please press enter key once or twice to continue...

Process Transactions:

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Hotdog Stand Current Status :

Stand Id : HotDogStand1  
Address : 17817 Coit Rd Richardson Texas 75934 USA  
Price : 10.27  
Inventory : 0  
Store Sold : 0 at \$10.27 ea.

Transaction:

Transaction Stand Id : HotDogStand1  
Transaction Id : stock inventory  
Transaction Argument : 20

Hotdog Stand Status After Transaction :

Stand Id : HotDogStand1  
Address : 17817 Coit Rd Richardson Texas 75934 USA  
Price : 10.27  
Inventory : 20  
Store Sold : 0 at \$10.27 ea.

Global Sold : 0

Please press enter key once or twice to continue...

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Hotdog Stand Current Status :

Stand Id : HotDogStand2  
Address : 800 West Campbell Rd Plano Texas 75039 USA  
Price : 13.20  
Inventory : 0  
Store Sold : 0 at \$13.20 ea.

Transaction:

Transaction Stand Id : HotDogStand2  
Transaction Id : stock inventory  
Transaction Argument : 20

Hotdog Stand Status After Transaction :

Stand Id : HotDogStand2  
Address : 800 West Campbell Rd Plano Texas 75039 USA  
Price : 13.20  
Inventory : 20

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Store Sold : 0 at \$13.20 ea.

Global Sold : 0

Please press enter key once or twice to continue...

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Hotdog Stand Current Status :

Stand Id : HotDogStand3

Address : 7421 Frankford Rd Dallas Texas 73409 USA

Price : 18.23

Inventory : 0

Store Sold : 0 at \$18.23 ea.

Transaction:

Transaction Stand Id : HotDogStand3

Transaction Id : stock inventory

Transaction Argument : 20

Hotdog Stand Status After Transaction :

Stand Id : HotDogStand3

Address : 7421 Frankford Rd Dallas Texas 73409 USA

Price : 18.23

Inventory : 20

Store Sold : 0 at \$18.23 ea.

Global Sold : 0

Please press enter key once or twice to continue...

-----

Hotdog Stand Current Status :

Stand Id : HotDogStand1

Address : 17817 Coit Rd Richardson Texas 75934 USA

Price : 10.27

Inventory : 20

Store Sold : 0 at \$10.27 ea.

Transaction:

Transaction Stand Id : HotDogStand1

Transaction Id : buy

Transaction Argument : 10

Hotdog Stand Status After Transaction :

## Hotdogs – The World’s Greatest Cost Effective Wholesome Nutritious Food

Stand Id : HotDogStand1  
Address : 17817 Coit Rd Richardson Texas 75934 USA  
Price : 10.27  
Inventory : 10  
Store Sold : 10 at \$10.27 ea.

Global Sold : 10

Please press enter key once or twice to continue...

-----

Hotdog Stand Current Status :

Stand Id : HotDogStand2  
Address : 800 West Campbell Rd Plano Texas 75039 USA  
Price : 13.20  
Inventory : 20  
Store Sold : 0 at \$13.20 ea.

Transaction:

Transaction Stand Id : HotDogStand2  
Transaction Id : buy  
Transaction Argument : 3

Hotdog Stand Status After Transaction :

Stand Id : HotDogStand2  
Address : 800 West Campbell Rd Plano Texas 75039 USA  
Price : 13.20  
Inventory : 17  
Store Sold : 3 at \$13.20 ea.

Global Sold : 13

Please press enter key once or twice to continue...

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Hotdog Stand Current Status :

Stand Id : HotDogStand3  
Address : 7421 Frankford Rd Dallas Texas 73409 USA  
Price : 18.23  
Inventory : 20  
Store Sold : 0 at \$18.23 ea.

Transaction:

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Transaction Stand Id : HotDogStand3

Transaction Id : buy

Transaction Argument : 1

Hotdog Stand Status After Transaction :

Stand Id : HotDogStand3

Address : 7421 Frankford Rd Dallas Texas 73409 USA

Price : 18.23

Inventory : 19

Store Sold : 1 at \$18.23 ea.

Global Sold : 14

Please press enter key once or twice to continue...

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Hotdog Stand Current Status :

Stand Id : HotDogStand1

Address : 17817 Coit Rd Richardson Texas 75934 USA

Price : 10.27

Inventory : 10

Store Sold : 10 at \$10.27 ea.

Transaction:

Transaction Stand Id : HotDogStand1

Transaction Id : buy

Transaction Argument : 30

\*We only have 10 hotdogs left.\*

Hotdog Stand Status After Transaction :

Stand Id : HotDogStand1

Address : 17817 Coit Rd Richardson Texas 75934 USA

Price : 10.27

Inventory : 10

Store Sold : 10 at \$10.27 ea.

Global Sold : 14

Please press enter key once or twice to continue...

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Hotdog Stand Current Status :

Stand Id : HotDogStand2



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Address : 800 West Campbell Rd Plano Texas 75039 USA  
Price : 13.20  
Inventory : 17  
Store Sold : 3 at \$13.20 ea.

Transaction:

Transaction Stand Id : HotDogStand2  
Transaction Id : buy  
Transaction Argument : 17

Hotdog Stand Status After Transaction :

Stand Id : HotDogStand2  
Address : 800 West Campbell Rd Plano Texas 75039 USA  
Price : 13.20  
Inventory : 0  
Store Sold : 20 at \$13.20 ea.

Global Sold : 31

Please press enter key once or twice to continue...

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Hotdog Stand Current Status :

Stand Id : HotDogStand2  
Address : 800 West Campbell Rd Plano Texas 75039 USA  
Price : 13.20  
Inventory : 0  
Store Sold : 20 at \$13.20 ea.

Transaction:

Transaction Stand Id : HotDogStand2  
Transaction Id : buy  
Transaction Argument : 1

\*There are not any more hotdogs left to be sold\*

HotDog Stand Status After Transaction :

Stand Id : HotDogStand2  
Address : 800 West Campbell Rd Plano Texas 75039 USA  
Price : 13.20  
Inventory : 0  
Store Sold : 20 at \$13.20 ea.

Global Sold : 31

## Hotdogs – The World’s Greatest Cost Effective Wholesome Nutritious Food

Please press enter key once or twice to continue...

Final states of stands:

=====

Stand Id : HotDogStand1

Address : 17817 Coit Rd Richardson Texas 75934 USA

Price : 10.27

Inventory : 10

Store Sold : 10 at \$10.27 ea.

Stand Id : HotDogStand2

Address : 800 West Campbell Rd Plano Texas 75039 USA

Price : 13.20

Inventory : 0

Store Sold : 20 at \$13.20 ea.

Stand Id : HotDogStand3

Address : 7421 Frankford Rd Dallas Texas 73409 USA

Price : 18.23

Inventory : 19

Store Sold : 1 at \$18.23 ea.

Global Sold : 31

Please press enter key once or twice to continue...

Please press enter key once or twice to end...